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10/785,474	02/24/2004	John L. Tomich	108513.00016	8551

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EXAMINER
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KIM, DAVID S

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/785,474

Applicant(s)

TOMICH ET AL.

Examiner

David S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6, 8 and 10-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8 and 10-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Priority***

1. Applicant's efforts to comply with the requirements for obtaining the benefit(s) of earlier filed applications are noted and appreciated. Applicant claims priority of prior Application Nos. 09/435,657, filed on 08 November 1999, and 08/607,964, filed on 29 February 1996.
2. **Regarding 09/435,657**, Applicant amended the specification to include the relationship of the instant application and 09/435,657. Applicant's amendment to the specification indicates that the instant application is a *divisional* application filed under 37 CFR 1.53(b) of 09/435,657. However, the instant application adds and claims additional disclosure *not presented* in the prior applications. Since the instant application names an inventor or inventors named in the prior applications, it may constitute a *continuation-in-part* of the prior applications. Should applicant desire to obtain the benefit of the filing dates of 09/435,657, attention is directed to 35 U.S.C. 120 and 37 CFR 1.78. Presently, the relationship between the instant application and 09/435,657 is unclear. Accordingly, the instant application does not officially receive the benefit of the filing date of 09/435,657. However, assuming that Applicant's response was a bona fide effort to obtain proper priority to 09/435,657, Examiner treats the merits of Applicant's application as though Applicant properly obtained priority to 09/435,657, in the interest of a more compact examination process.

As a remedy, Examiner respectfully suggests removing the additional disclosure in the *instant application that is not presented in the prior applications*. For example, claim 7 and paragraph [067] both disclose subject matter that was not presented in the prior applications: two fiber optic lines that run counter directionally to each other.

However, Applicant argued that this subject matter was in fact disclosed in patent application 08/607,964 (now patent 5,983,068) for example, in the final five paragraphs. Examiner reviewed these final five paragraphs in patent 5,983,068 and did not find sufficient support for two fiber optic lines that run counter directionally to each other. If Applicant still considers these five final paragraphs to support this subject matter, Examiner respectfully requests Applicant to specifically point out the supporting

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language from these final five paragraphs of patent 5,983,068. Otherwise, Applicant's argument is not persuasive.

As another remedy, Examiner respectfully suggests changing all references and Office records of a *divisional* relationship between the instant application and 09/435,657 to those of a *continuation-in-part* relationship.

3. **Regarding 08/607,964**, Applicant amended the specification to include the relationship of the instant application and 08/607,964. Applicant's amendment to the specification indicates that the instant application is a *divisional* application filed under 37 CFR 1.53(b) of 09/435,657, which is a *continuation-in-part* of 08/607,964. However, as noted above, the relationship between the instant application and 09/435,657 is presently unclear. Since 09/435,657 is part of the priority chain to 08/607,964, the same lack of clarity enters the relationship between the instant application and 08/607,964. Accordingly, the instant application does not officially receive the benefit of the filing date of 08/607,964. However, assuming that Applicant's response was a bona fide effort to obtain proper priority to 08/607,964, Examiner treats the merits of Applicant's application as though Applicant properly obtained priority to 08/607,964, in the interest of a more compact examination process.

#### **Drawings**

4. Applicant's response to the objection to the drawings in the previous Office Action (mailed on 29 November 2005) is noted and appreciated. Applicant responded by canceling claim 7. Accordingly, the previous objection is presently withdrawn.

#### **Claim Objections**

5. Applicant's response to the objections to claim 3 in the previous Office Action (mailed on 29 November 2005) is noted and appreciated. Applicant responded by changing the dependency of claim 3 to depend on claim 2 instead of depending on claim 1. Applicant's response overcomes the previous objection, which is presently withdrawn.

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**Claim Rejections - 35 USC § 112**

6. Applicant's response to the rejection of claim 9 under 35 U.S.C. 112, first paragraph, in the previous Office Action (mailed on 29 November 2005) is noted and appreciated. Applicant responded by canceling claim 9, which renders the previous rejection to be moot.

**Claim Rejections - 35 USC § 102**

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Amitay**

8. **Claims 1, 6, and 8** are rejected under 35 U.S.C. 102(b) as being anticipated by Amitay (U.S. Patent No. 4,807,222). Amitay discloses:

(claim 1) The channel comprising the plurality of units, each including: the first circuit (photodetector 20 in Fig. 2 or 3) that receives photonic signals, the second circuit (laser 26) that transmits multiplexed photonic signals, the head-end communications circuit (headend on the left side of Fig. 1, col. 3, l. 29-32), the subsequent set of the units (other RBIUs), and the ring network configuration (abstract).

(claim 6) The channel consists of a fiber optic cable (fiber bus 14 in Fig. 1).

(claim 8) The channel consists of an infrared data signal path (col. 2, l. 44).

**Claim Rejections - 35 USC § 103**

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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**Amitay**

10. **Claims 4 and 10-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Amitay.

(**claim 4**) Amitay does not expressly disclose the optical window, the enclosure, and the bottom plate of claim 4. However, one of ordinary skill in the art would have noticed that a standard housing box for an optical transmitter (e.g., Fig. 2 or 3) of Amitay with an aperture(s) for the optical signals would read on the limitations of claim 4. It is standard practice to house transmission and reception circuitry in such boxes.

(**claims 10-17**) Amitay does not expressly disclose the limitations of claims 10-17: Ethernet packets, Frame Relay packets, FDM signals, On-Off Keying, Frequency-Shift Keying, Quadrature-Phase-Shift Keying, Quadrature-Amplitude-Modulation, and a proprietary modulation. However, all of these limitations are common and well-known techniques for transmitting information signals. There various techniques are readily available to one of ordinary skill in the art to modify Amitay to provide further obvious variations of Amitay.

**Shioda et al.**

11. **Claims 1-3 and 5-8** are rejected under 35 U.S.C. 103(a) as being unpatentable by Shioda et al. (U.S. Patent No. 5,537,393, hereinafter "Shioda") in view of Wu et al. ("High-speed self-healing ring architectures for future interoffice networks", hereinafter "Wu") with reference to Newton (*Newton's Telecom Dictionary*, 8<sup>th</sup> ed.). Shioda discloses:

(**claim 1**) The channel comprising the plurality of units, each including: the first circuit (optical receiver 15 or 18 in NODE A of Fig. 1) that receives photonic signals, the second circuit (optical transmitter 16 or 17 in NODE A) that transmits multiplexed photonic signals, the subsequent set of the units (other NODEs), and the ring network configuration (ring in Fig. 1).

Shioda does not expressly disclose:

the head-end communications circuit.

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Rather, Shioda shows a number of various communications circuits (any other appropriate NODE) in a SONET/SDH ring. However, head-end communications circuits in such rings are well known in the art. Wu shows such a head-end communications circuit (Wu, HUB and corresponding ADM together in Fig. 1 provide access between the ring and the remainder of the network in Fig. 1; this circuitry to Wu is within the scope of the definition of "head end" according to Newton, p. 504). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to designate one of the various communication circuits of Shioda (NODEs in Fig. 1) as a head-end communications circuit. One of ordinary skill in the art would have been motivated to do this since such a circuit provides an access gateway between the apparatus of Shioda and other portions of an extended network (Shioda, Fig. 1, access gateway to REMAINDER OF THE NETWORK in Fig. 1), thus increasing network reach.

**(claim 2)** The first module (module 12 in NODE A of Fig. 1) comprising the first surface (e.g., left side of module 12) aligned with the second circuit (e.g., optical transmitter 16) and another first circuit (e.g., optical receiver 18) aligned with the second surface (e.g., right side of module 12) of the first module.

**(claim 3)** The second module (module 12 in NODE A of Fig. 1) comprising the first surface (e.g., left side of module 12) aligned with the first circuit (e.g., optical receiver 15) and another second circuit (e.g., optical transmitter 17) aligned with the second surface (e.g., right side of module 12) of the second module.

**(claim 5)** The channel is adapted to allow all units on the ring to simultaneously transmit and receive user data segments (e.g., transmit and receive circuitry in Fig. 1).

**(claim 6)** The channel consists of a fiber optic cable (pick a fiber 13 or 14 in Fig. 1).

**(claim 7)** The channel consists of two parallel fiber optic cables running counter directionally to one another (fibers 13 and 14 in Fig. 1).

**(claim 8)** The channel consists of an infrared data signal path (pick a fiber 13 or 14, fiber carries infrared signals).

12. **Claims 4 and 10-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shioda in view of Wu and Newton.

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(claim 4) Shioda in view of Wu and Newton does not expressly disclose the optical window, the enclosure, and the bottom plate of claim 4. However, one of ordinary skill in the art would have noticed that a standard housing box for an optical node (e.g., NODEs in Fig. 1) of Shioda in view of Wu and Newton with an aperture(s) for the optical signals would read on the limitations of claim 4. It is standard practice to house transmission and reception circuitry in such boxes.

(claims 10-17) Shioda in view of Wu and Newton does not expressly disclose the limitations of claims 10-17: Ethernet packets, Frame Relay packets, FDM signals, On-Off Keying, Frequency-Shift Keying, Quadrature-Phase-Shift Keying, Quadrature-Amplitude-Modulation, and a proprietary modulation. However, all of these limitations are common and well-known techniques for transmitting information signals. These various techniques are readily available to one of ordinary skill in the art to modify Shioda in view of Wu and Newton to provide further obvious variations of Shioda in view of Wu and Newton.

#### **Terminal Disclaimer**

13. The terminal disclaimers filed on 30 May 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration dates of U.S. Patent No. 5,983,068 and Application No. 09/435,657 (now U.S. Patent No. 7,099,316, issued on 29 August 2006) have not been reviewed since the fees for these disclaimers have not been collected. Accordingly, until the fees for the terminal disclaimers are collected, the following double patenting rejections stand.

#### **Double Patenting**

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).



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**Tomich et al. ("Tomich068")**

15. **Claims 1-4 and 6** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-5 of Tomich et al. (U.S. Patent No. 5,983,068, hereinafter "Tomich068").

Claim no. of instant app.	Claim no. of patent	Limitations in instant app.	Corresponding limitations in patent
1	2	multi-access channel plurality of units first circuit second circuit third circuit subsequent set of the units ring network configuration	multi-access channel plurality of roof-top units optical detector circuit optical laser transmit circuit head-end communications circuit subsequent set of roof-top units ring network
2	3	first module	second beamsplitter
3	3	second module	first beamsplitter
4	4	optical window enclosure bottom plate	optical window roof-top enclosure bottom plate
6	5	fiber optic cable	fiber optic cable

16. **Claims 5, 8, and 10-16** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-5 of Tomich068. Claims 2-5 of Tomich068 do not expressly disclose the subject matter of claims 5, 8, and 10-16 of the instant application.

**Regarding claim 5**, the limitation of ring units simultaneously transmitting and receiving user data segments is a common feature of ring network units. Such a feature increases the amount of available time that each unit can transmit and receive data, thus increasing utility efficiency of the multi-access channel.

**Regarding claim 8**, the limitation of an infrared data signal path is a common feature of a photonic channel. Photonic signals are conventionally in the infrared wavelength range.

**Regarding claims 10-16**, claims 2-5 of Tomich068 do not expressly disclose the limitations of claims 10-17: Ethernet packets, Frame Relay packets, FDM signals, On-Off Keying, Frequency-Shift Keying, Quadrature-Phase-Shift Keying, Quadrature-Amplitude-Modulation, and a proprietary modulation. However, all of these limitations are common and well-known techniques for transmitting

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information signals. There various techniques are readily available to one of ordinary skill in the art to modify Tomich068 to provide further obvious variations of Tomich068.

17. **Claim 7** is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-5 of Tomich068 as applied to claim 1 above, and further in view of Cisco ("Data Optimized Fiber Ring Solutions" from Applicant's IDS filed on 24 February 2004).

**Regarding claim 7**, claims 2-5 of Tomich068 do not expressly disclose:

The wide-signal bandwidth multi-access channel of claim 1, wherein the wide-signal bandwidth multi-access channel consists of two parallel fiber optic cables running counter directionally to one another.

Rather, claims 2-5 of Tomich068 disclose a channel that comprises a single fiber optic cable (fiber optic cable in claim 5). However, such channels that consist of two parallel fiber optic cables running counter directionally to one another are extremely well known in the art. Cisco shows examples of such channels (figure under SONET/SDH Bandwidth Allocation and figure under Dynamic Packet Transport) as part of ring networks. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the channel of claims 2-5 of Tomich068 by adding a parallel fiber optic cable running counter directionally to fiber cable 200 in the ring network of claims 2-5 of Tomich068. One of ordinary skill in the art would have been motivated to do this since doing so enables a fault recovery mechanism in the event of a node failure or a fiber cut that causes the ring to wrap (Cisco, section SONET/SDH Ring Technology and section Cisco Dynamic Packet Transport), thus providing restored communication around the fault.

18. **Claim 17** is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-5 of Tomich068.

**Regarding claim 17**, claims 2-5 of Tomich068 do not expressly disclose:

The wide-signal bandwidth multi-access channel of claim 1, wherein the photonic signals use a proprietary modulation.

However, Examiner takes Official Notice that the practice of employing proprietary modulation schemes is extremely well known in the art. At the time the invention was made, it would have been

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obvious to a person of ordinary skill in the art to arrange the photonic signals of claims 2-5 of Tomich068 to use a proprietary modulation. One of ordinary skill in the art would have been motivated to do this for the common purpose of interfacing the channel of claims 2-5 of Tomich068 with other equipment that also uses the same proprietary modulation. Another common motivation is to encourage customers to purchase the channel of claims 2-5 of Tomich068 and all of the equipment that interfaces with the channel of claims 2-5 of Tomich068 all from the same vendor, that is, the owner of the proprietary modulation scheme, thus increasing the revenues of the owner of the proprietary modulation scheme.

**Tomich et al. ("Tomich316")**

19. **Claims 1-4** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4-7 of Tomich et al. (U.S. Patent No. 7,099,316 B1, hereinafter "Tomich316"). Although the conflicting claims are not identical, they are not patentably distinct from each other because the invention of the instant application is an obvious variation of the invention of Tomich316.

Claim no. of instant app.	Claim no. of patent	Limitations in instant app.	Corresponding limitations in patent
1	4	multi-access channel plurality of units first circuit second circuit third circuit subsequent set of the units ring network configuration	multi-access channel plurality of units optical detector circuit optical laser transmit circuit head-end communications circuit subsequent set of units ring network
2	5	first module	second beamsplitter
3	6	second module	first beamsplitter
4	7	optical window enclosure bottom plate	optical window enclosure bottom plate

20. **Claims 5-6, 8, and 10-16** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4-7 of Tomich316. Claims 4-7 of Tomich316 do not expressly disclose the subject matter of claims 5-6, 8, and 10-16 of the instant application.

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**Regarding claim 5**, the limitation of ring units simultaneously transmitting and receiving user data segments is a common feature of ring network units. Such a feature increases the amount of available time that each unit can transmit and receive data, thus increasing utility efficiency of the multi-access channel.

**Regarding claim 6**, the limitation of a fiber optic cable is a common feature of a photonic channel. A photonic channel is conventionally a fiber optic cable.

**Regarding claim 8**, the limitation of an infrared data signal path is a common feature of a photonic channel. Photonic signals are conventionally in the infrared wavelength range.

**Regarding claims 10-16**, claims 4-7 of Tomich316 do not expressly disclose the limitations of claims 10-17: Ethernet packets, Frame Relay packets, FDM signals, On-Off Keying, Frequency-Shift Keying, Quadrature-Phase-Shift Keying, Quadrature-Amplitude-Modulation, and a proprietary modulation. However, all of these limitations are common and well-known techniques for transmitting information signals. These various techniques are readily available to one of ordinary skill in the art to modify Tomich316 to provide further obvious variations of Tomich316.

21. **Claim 7** is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4-7 of Tomich316 as applied to claim 1 above, and further in view of Cisco.

**Regarding claim 7**, claims 4-7 of Tomich316 do not expressly disclose:

The wide-signal bandwidth multi-access channel of claim 1, wherein the wide-signal bandwidth multi-access channel consists of two parallel fiber optic cables running counter directionally to one another.

Rather, claims 4-7 of Tomich316 disclose simply a wide-signal bandwidth multi-access channel. However, a fiber optic cable is a common feature of a photonic channel. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement the channel of claims 4-7 of Tomich316 with a fiber optic cable. One of ordinary skill in the art would have been motivated to do this since a photonic channel is conventionally a fiber optic cable.

However, claims 4-7 of Tomich316 still only disclose a single fiber optic cable (fiber optic cable argument above). However, such channels that consist of two parallel fiber optic cables running counter

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directionally to one another are extremely well known in the art. Cisco shows examples of such channels (figure under SONET/SDH Bandwidth Allocation and figure under Dynamic Packet Transport) as part of ring networks. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the channel of claims 4-7 of Tomich316 by adding a parallel fiber optic cable running counter directionally to the fiber cable in the ring network of claims 4-7 of Tomich316. One of ordinary skill in the art would have been motivated to do this since doing so enables a fault recovery mechanism in the event of a node failure or a fiber cut that causes the ring to wrap (Cisco, section SONET/SDH Ring Technology and section Cisco Dynamic Packet Transport), thus providing restored communication around the fault.

22. **Claim 17** is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4-7 of Tomich316.

**Regarding claim 17**, claims 4-7 of Tomich316 do not expressly disclose:

The wide-signal bandwidth multi-access channel of claim 1, wherein the photonic signals use a proprietary modulation.

However, Examiner takes Official Notice that the practice of employing proprietary modulation schemes is extremely well known in the art. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to arrange the photonic signals of claims 4-7 of Tomich316 to use a proprietary modulation. One of ordinary skill in the art would have been motivated to do this for the common purpose of interfacing the channel of claims 4-7 of Tomich316 with other equipment that also uses the same proprietary modulation. Another common motivation is to encourage customers to purchase the channel of claims 4-7 of Tomich316 and all of the equipment that interfaces with the channel of claims 4-7 of Tomich316 all from the same vendor, that is, the owner of the proprietary modulation scheme, thus increasing the revenues of the owner of the proprietary modulation scheme.

### **Response to Arguments**

23. Applicant's arguments with respect to the rejections under Amitay and Shioda have been considered but are moot in view of the new ground(s) of rejection. More exactly, Applicant's arguments

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are based on the limitation of the "head-end communications circuit" newly introduced to independent claim 1 by Applicant's most recent amendment filed on 30 May 2006. This limitation is present in Amitay, as detailed above. Additionally, Wu and Newton are applied to address this limitation under Shioda.

### Conclusion

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N. Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSK



**KENNETH VANDERPUYE**  
**SUPERVISORY PATENT EXAMINER**